

Amendments to the Specification: Please amend relative to the substitute specification.

[0007] In the ~~as-yet-unpublished~~ German patent application with the official filing reference DE 10202092.2 and in the ~~as-yet-unpublished~~ international patent application with the official filing reference PCT/DE/03/00093, both of the present assignee, a standard, modular extendable system is disclosed for largely retroaction-free and time-synchronous measurement and analysis of widely distributed signals from industrial processes comprising a plurality of sub-processes. Measuring heads are used to detect any signals present in the sub-processes and to time stamp them in some instances before forwarding them in a predefined form as measuring or time signals to a measuring bus system, the measuring bus system being such that it is not identical to existing bus systems used for automation. A time signal here refers to a measuring signal with a time stamp. The measuring and/or time signals are further processed by data concentrators.

[0008] ~~Based on this prior art the~~ The object of the present invention is to specify a method and a device for determining the causes of failures in industrial processes, which allow rapid, reproducible and economical determination of the causes of failures even in highly complex processes and also allow long-term elimination of said failures.

[0011] The process variables can be represented by measuring signals, which are understood in the sense of the patent applications DE 10202092.2 and PCT/DE/03/00093 mentioned above ~~and as-yet-unpublished~~ as signals which originate from different sources in the process and can be present in any, even different, forms e.g. analog, binary, numeric and/or as a variable physical quantity. These signals can be detected with the aid of signal sources that are already present in the process or are to be provided additionally.